7 July 1969

MEMORANDUM FOR THE RECORD:

SUBJECT: Meeting with Mr. J. o.V. Weaver, PBS Building Manager

1. Mr. Weaver is the GSA/PBS Building Manager and has responsibility for the operation and maintenance of the Headquarters Building. His forces operate the power plant and its utilities systems which include commercial power distribution, emergency diesel-electric power plant and distribution, the water system, sanitary and storm sewer systems, the boilers and steam distribution system, the air-conditioning and refrigeration systems, and several localized compressed air systems (used for air-conditioning controls). They also provide maintenance for the incinerators and SOMAT classified waste disposal systems; however, these systems are operated by Agency personnel.

2. Mr. Weaver was most cooperative in response to my questions regarding the utilities systems for which he is responsible. He maintains monthly records of consumption and costs on power, water, and steam. These records go back to the time the building was put into operation (late 1961). The following data was obtained about each of the systems as follows:

a. Electricity (Power) - Commercial power is provided by the Virginia Electric Power Company. During the month of June 1969, the power consumption was 6,244,000 kilowatt hours and cost $50,835.20. For the month of May 1969 power consumption was 5,586,000 kilowatt hours and cost $46,324.80. The yearly cost of power for FY 66 was $462,950.

b. Water - Water service is provided by the City of Falls Church, Virginia. During May 1969 14,478,000 gallons were consumed at a cost of $5,792.67. A water storage tank is located next to the powerhouse and has a capacity of 307,500 gallons.

c. Steam - There are presently installed in the powerhouse 3 boilers, each having a capacity of 55,000 lbs. of steam per hour. These boilers are fuel-oil fired and produce steam at 110 lbs. per square inch. During the month of May 1969 GSI used 440,615 lbs. of steam (they are the only users of steam in the summer months). The highest consumption of steam indicated by the records was during the month of January 1968, when 1,099,875 lbs. of steam was used. There is space in the powerhouse for the addition of a 4th boiler, if necessary.

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d. Water Chillers for Air-Conditioning - Four chillers each having a capacity of 1500 Tons per hour (total capacity of 6,000 Tons per hour) are installed in the powerhouse. Maximum summer loads consume approximately 5,000 Tons per hour. One of the four chillers was disabled due to an internal explosion on 24 June 1969.

The Printing Services Division Building requires approximately 500 Tons per hour.

The cooling towers which work with these chillers are in need of replacement soon. The tower has been "winterized" to permit operation of one of the 1500 Ton per hour chillers during the winter months. However, the manufacturer of the towers has been out of business for several years, and replacement parts are difficult to obtain. Expansion space for additional chillers is not available in the existing powerhouse.

e. Gas - Commercial gas was not available in the area at the time of Headquarters Building occupancy (1961-1962). Since then (about 3 years ago) a line was installed along Route 123. The Gas Company offered to install a line (free of charge) to the powerhouse if the Government was interested. A study of this proposal was made by PBS Region 3 engineers (compared with the use of #6 fuel oil for the boilers), and their conclusion at that time was that it was not economical to use gas in lieu of fuel oil. Another point made by Mr. Weaver regarding the use of gas was that any externally caused failure of the gas distribution system would cause boiler failure (unless some provision were made for gas storage).

In order to provide for a limited requirement of gas needed for the incinerators and for laboratory and medical (bunsen burner) use, a small 10,000 gals. propane tank system was installed underground in the vicinity of the cafeteria.

f. Compressed Air - Several systems of compressed air using small compressors and pipe distribution systems are used in the building to supply limited local requirements. One system provides air for the PBS maintenance shops use. Another provides air for the pneumatic controls of the air-conditioning system.

The pneumatic tube system operates by vacuum exhausters, but this system is operated and maintained by the Agency.

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g. Storm Sewer System - This system collects surface water resulting from rainfall and discharges it at several points on the property into natural surface drainage flows which run to the Potomac River.

h. Sanitary Sewer System - This system collects sanitary waste from the buildings. The collection flows to a pumping station (built by Fairfax County) which "lifts" the flow into a county trunk sewer. The trunk formerly went to a treatment plant located about 2 miles from the property on Pimmit Run. When the operation of this plant was discontinued about 4 years ago, the flow was connected to a county trunk sewer running down Route 123 to Chain Bridge and across the Potomac. On the D.C. side of the bridge, it connects to the District Collecting Trunk and then to a treatment plant.

Mr. Weaver was not sure of the arrangements with Fairfax County regarding use of the land where the pumping station is located. He also indicated that monthly sewer service charges were based upon water consumption and paid as part of the water bill; however, none of the water bills show any charges for sewer services. This matter will be checked into further by the undersigned.

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j. Emergency Power - In the event of commercial power failure, emergency power generation is provided by two air-start diesel-electric sets having a capacity of 2,000 KW each, or a total capacity of 4,000 KW. It takes approximately 30 minutes after a commercial power failure to start and place these machines "on the line".

Since the average building load (for the month of June '69) was approximately 9,000 KW, and the peak load is about 18,000 KW, the emergency generating equipment can only accommodate a small percentage of the connected load. Critical circuits in the building, a minimum of corridor lights, etc. are selectively placed on the emergency system.

A contract for the installation of an additional 2500 KW diesel electric generator set has been awarded, and installation of this equipment is expected by the summer of 1970. It will have an "on line" response time of less than 2 minutes. At that time, the total emergency power generating capability will be 6500 KW.

3. Additional detailed information on these systems will be obtained and documented for the Building Planning Staff's use.

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Engineer
Building Planning Staff, OL

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